

## **REMARKS**

Applicants acknowledge receipt of an Office Action dated January 7, 2009. Claims 1-7 and 9-20 remain pending in the application.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

### **Rejections Under 35 U.S.C. §103**

In the Office Action, the PTO has set forth 3 separate grounds of rejection which Applicants summarize here for reference:

- On page 3 of the Office Action, the PTO has rejected claims 1, 3-7, 9-10, 12, 14-16 and 18-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 02/03928 to Ichinohe *et al.* (hereafter “Ichinohe”) in view of U.S. Patent 4,892,726 to Yonekura *et al.* (hereafter “Yonekura”), JP 2000-309505 to Oka *et al.* (hereafter “Oka”) in view of Fluoropolymers (Gareth Hougham, Published by Springer, 1999) (hereafter “Hougham”), and further in view of U.S. Patent 6,534,044 to Wada *et al.* (hereafter “Wada”).
- On page 9 of the Office Action, the PTO has rejected claims 2 and 17 under 35 U.S.C. §103(a) as allegedly being unpatentable over Ichinohe in view of Yonekura, Oka, Hougham, and Wada, and further in view of JP 01211518 to Fukuchi (hereafter “Fukuchi”).
- On page 11 of the Office Action, the PTO has rejected claims 11 and 13 under 35 U.S.C. §103(a) as allegedly being unpatentable over Ichinohe in view of Yonekura, Oka, Hougham, and Wada, and further in view of JP 2000327948 to Hayashi *et al.* (hereafter “Hayashi”)

Applicants respectfully traverse these rejections for the reasons set forth below.

As a preliminary matter, Applicants wish to discuss the context of the present inventors’ research and discoveries.

As discussed in the specification, the conventional means for improving durability of cosmetic compositions is based on techniques of formulating materials excellent in water-repellency. However, some cosmetic compositions using these conventional means are still poor in actual performance, particularly when worn in water bathing (see the present specification, page 1, line 14 to page 3 line 5).

In the present specification, the inventors have described completely different ways to improve the durability of cosmetic compositions. More specifically, they have described improving the durability of cosmetic compositions by imparting water-runability to them. The water-runability is imparted by a technique which forms microscopic asperities on the surface of a coating film to provide an air film thereon, thereby substantially eliminating interaction between the coating film and water. When water-runability is imparted, water flows down (slips down) the coating film (see the present specification, page 3, line 9 to page 4, line 33). Further, the inventors have described a composition which exhibits excellent water-runability over a wide range of temperatures, which improves durability of cosmetic compositions significantly (the present specification, page 4, line 34 to page 5, line 14).

The advantageous effects of the presently claimed invention are brought about by formulating specific components, *i.e.* components (A) to (E), in specific amounts.

Applicants wish to direct the PTO's attention to the Working Examples of the present specification and to Example A and Comparative Examples A to C of the Ishii Declaration. The results are summarized in Table 1 below. The numerical values surrounded with  $\square$  are outside of the scope of the present claims in terms of kind or amount of the component. It is clear from the data that formulating specific components in specific amounts is important for imparting (a performance of) water-runability without temperature dependency to a cosmetic composition.

TABLE 1

|                                     |   | Ex. 1       | Com.Ex. 2 | Com.Ex. 3 | Com.Ex. 4 | Com.Ex. 5 | Ex. A       | Com.Ex. A   | Com.Ex. B   | Com.Ex. C |
|-------------------------------------|---|-------------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|-----------|
| (A)                                 | Octyl paramethoxycinnamate  | 10          | <b>10</b> | 10        | 10        | 10        | 10          | 10          | 10          | 10        |
|                                     | methylphenylpolysiloxane  | 4           | <b>35</b> | 4         | 4         | 4         | 17          | 4           | 4           | 17        |
| (B)                                 | Silicone elastomer spherical powder crushed paste   | 4           | 4         | <b>0</b>  | <b>25</b> | 4         | 4           | 4           | 4           | 4         |
| (C)                                 | Solution of trifluoropropyl-modified trimethylsiloxy silicate 50% by weight in cyclic silicone (pentamer) | 1           | 1         | <b>0</b>  | 1         | <b>20</b> | 1           | 1           | 1           | 1         |
|                                     | Solution of trimethylsiloxy 50% by weight in cyclic silicone (pentamer)                                   |             |           |           |           |           |             |             |             | <b>1</b>  |
| (D)                                 | Decamethylcyclopentasiloxane  | 26          | <b>5</b>  | 26        | 26        | 26        | 26          | 26          | 26          | 26        |
|                                     | Branced tetramer of methylsiloxane  | 10          | <b>0</b>  | 10        | 10        | 10        | 2           | 10          | 10          | 2         |
|                                     | Ethyl alcohol   | 3           | <b>3</b>  | 3         | 3         | 3         | 3           | 3           | 3           | 3         |
| (E)                                 | Dispersion of octylsilylated fine particle titanium oxide 50% by weight of decamethylcyclopentasiloxane   | 8           | <b>8</b>  | 8         | 8         | 8         | <b>8</b>    | <b>8</b>    |             | 8         |
|                                     | Octylsilylated fine particle zinc oxide   | 15          | 15        | 15        | 15        | 15        | 10          | 0           | <b>30</b>   | 10        |
| (F)                                 | Highly polymerized dimethylpolysiloxane   | 1           | 1         | 1         | 1         | 1         | 1           | 1           | 1           | 1         |
| (G)                                 | 1,3-Butylene glycol   | 5           | 5         | 5         | 5         | 5         | 5           | 5           | 5           | 5         |
|                                     | Purified water  | remainder   | remainder | remainder | remainder | remainder | remainder   | remainder   | remainder   | remainder |
| Evaluation of water-runability      | Water-runability  | Present     | Weak      | Weak      | Weak      | Present   | Present     | Not Present | Not Present | Weak      |
|                                     | Temperature dependency of water-runability  | Not Present | —         | Present   | Present   | Present   | Not Present | —           | —           | Present   |
| Evaluation of utilizability on skin | Lastingness of water-proof properties   | 50          | 23        | 29        | 25        | 50        | 50          | 24          | 46          | 34        |
|                                     | Water easily floes down from the skin   | 50          | 38        | 37        | 34        | 50        | 46          | 17          | 42          | 36        |
|                                     | Excellent in feeling  | 46          | 10        | 42        | 36        | 10        | 40          | 39          | 15          | 40        |

\* For Example A and Comparative examples A to C, five expert panelists were assigned for evaluation of utilizability on skin.

Turning now to the outstanding rejections, Applicants note that the PTO has suggested that claim 1 is obvious over Ichinohe in view of Yonekura, Oka, Hougham and Wada (OA, page 3, lines 12 to 17). Applicants note, however, that none of the cited references refers to or discusses water-runability or the impact of temperature on water-runability. Since it was this underlying information that lead the present inventors to the presently claimed *combination of components (A) to (E)*, in the presently claimed specific amounts, Applicants submit that the PTO's attempt to pick and choose bits and pieces from numerous references amounts to nothing more than an impermissible hindsight reconstruction of Applicants' claimed invention.

Discussion of Base Reference - Ichinohe

Ichinohe states that "the present invention relates to a cosmetic material using silicone-modified wax, specifically carboxyl group-and/or carboxylic acid anhydride-containing polyethylene wax and/or polypropylene wax modified with a silicone. More specifically, the invention is concerned with a cosmetic material in which the wax specified above is incorporated to impart thereto a good spread capability, high possibility of giving a feeling of refreshment to users and strong repellencies to sweat and water" (see paragraph 1 of Ichinohe). It is clear from this statement that Ichinohe is focused on "water-repellency" as would be expected, but pays no attention to either "water-runability" or "temperature dependency."

In Ichinohe, the silicone-modified wax defined in Claim 1 of Ichinohe is an essential component. Ichinohe also describes various materials other than the silicone-modified wax. Applicants submit, however, that the mere description of various components by Ichinohe would not have led a person skilled in the art to the presently claimed *combination* of specific components, *i.e.* components (A) to (E), in the presently claimed specific amounts.

It should be noted that even the composition of Example 11 of Ichinohe mentioned in the Office Action clearly differs from the present invention regarding at least components (B), (C) and (E) as shown in Table 2.

TABLE 2

| Component of Example 11<br>Ingredients                          | Amount<br>mixed wt% | Corresponding component of<br>the presently claimed invention |
|---|---------------------|---|
| 1. Silicone-modified wax (I) obtained in<br>Synthesis Example 1 | 30.0                | -   |
| 2. Dimethylpolysiloxane (6 mm.sup.2/sec<br>at 25.degree. C.)    | 24.0                | Component (A)   |
| 3. Decamethylcyclopentasiloxane                                 | 22.0                | Component (D)   |
| 4. Acrylsilicone resin (note 1)                                 | 4.0                 | Oil soluble resin   |
| 5. Trimethylsiloxy silicate (note 2)                            | 1.0                 | Oil soluble resin   |
| 6. Polyether-modified silicone (note 3)                         | 2.0                 | Surfactant  |
| 7. Pigment  | proper              | Pigment   |
| 8. 1,3-Butylene glycol  | 2.0                 | Component (G)   |
| 9. Antiseptic   | proper              | -   |
| 10. Perfume   | proper              | -   |
| 11. Purified water  | 15.0                | Component (G)   |

Discussion of Component B

The composition of Example 11 of Ichinohe lacks component (B), *i.e.* “0.2 to 5% by weight of one or more kinds of water-repellent resin powders whose particle size of the primary particle is in the range of 2 to 20  $\mu\text{m}$ ”.

Applicants note that the PTO has pointed out that Ichinohe provides examples of organic powders used in the composition including polymethylsilsesquioxane (see OA, page 3, line 1 from the bottom to page 4, line 1 from the top). However, there is no teaching about water-repellency or particle size of organic powders in Ichinohe. Further, polymethylsilsesquioxane is mentioned as just one example of component F (powders and/or coloring agents) in Ichinohe. Component F of Ichinohe includes a broad spectrum of various materials such as inorganic powders, surfactant metal salt powders, colored pigments, pearl pigments, and metallic powder pigments. There is no reason that a person skilled in the art would take particular note of polymethylsilsesquioxane in Ichinohe out of the various materials of component F of Ichinohe. Stated another way, the PTO has not provided an adequate motivation to pick and choose from the vast array of possible materials to select polymethylsilsesquioxane to modify the composition of specific Example 11 of Ichinohe.

The PTO has also suggested that Ichinohe describes the amount of the organic powders as being in the range of 0.1-99 weight % (see OA, page 4, lines 2 to 4). It should be noted, however, that component (B) is presently claimed in an amount of 0.2 to 5% by

weight. The present specification states that “when the formulation amount is less than 0.2% by weight, the water-runability may become temperature dependent, and when the formulation amount exceeds 5% by weight, while water-runability can be obtained, physical strength of the coating film is reduced and when the amount of pigment is small, the durability becomes poor” (see page 11, lines 17 to 22 of the present specification). This statement is supported by the working examples of the present application. Example 4, for example, showed an excellent performance in terms of water runability, durability and feeling when applied to the skin. Also, Example 4 showed no temperature dependency in terms of water-runability. While, Comparative Example 3, an example where component (B) was not formulated, and Comparative Example 4, an example where component (B) was increased to the outside of the defined range of the present invention, showed weak water-runability and exhibited temperature dependency of water-runability. As stated above, the range of Component F of Ichinohe is quite broad. There is no reason that a person skilled in the art would have selected the claimed range of 0.2 to 5% by weight out of the broad range of Component F of Ichinohe.

In addition, the PTO has suggested that Yonekura describes the use of polymethylsilsesquioxane powders (see OA, page 4, lines 2 to 1 from the bottom). Applicants note, however, that Yonekura does not discuss “water-runability” or its “temperature dependency.” The advantageous effects discovered by Applicants cannot be obtained by using polymethylsilsesquioxane powders alone. It is necessary to formulate a specific *combination* of components, *i.e.* presently claimed components (A) to (E), in specific amounts to obtain the effects. A person skilled in the art would never conceive of such idea from Yonekura.

#### Discussion of Component C

The composition of Example 11 of Ichinohe lacks presently claimed component (C), *i.e.* “0.1 to 6% by weight of one or more kinds of oil-soluble silicone resins selected from the group consisting of perfluoroalkyl group-containing polyalkylsiloxy silicate.”

Component (C) plays a role in forming microscopic asperities on the surface of coating films when cosmetic compositions according to the presently claimed invention are applied to the skin.

The PTO has suggested that Oka teaches hydrophobic agents such as fluorine-modified trimethylsiloxy silicate treated powders (see OA, page 5, lines 9 to 11). However, Oka's fluorine-modified trimethylsiloxy silicate treated powders are not oil-soluble resins, and, accordingly, cannot make up for Ichinohe's failure to disclose presently claimed component (C). Oka states that fluorine-modified trimethylsiloxy silicate treated powders can be prepared by gaseous phase reaction, *etc.* (see paragraph 10, *etc.* of Oka). By the reaction, fluorine-modified trimethylsiloxy silicate should be chemically bonded to the surface of anhydrous silicic acid powder. The fluorine-modified trimethylsiloxy silicate moiety of fluorine-modified trimethylsiloxy silicate treated powders is incapable of participating in formation of microscopic asperities on the surface of a coating film.

The PTO has also suggested that Hougham teaches that the fluorination of polymer provides for a wide range of properties (see OA, page 5, lines 11 to 14). However, Hougham does not recite water-runability and its temperature dependency as properties. Further, Hougham states that properties obtained by fluorination depend on chemical composition or base polymer. Thus it is not clear what properties It is not clear what properties can be obtained by using Component (C) in the cosmetic composition based upon Hougham.

Further, the present specification states that "perfluoroalkyl group-containing polyalkylsiloxy silicate was recognized to have [*sic: be*] about twice as effective as trimethyl siloxysilicate in imparting water-runability" (see page 12, lines 6 to 10 of the present specification). This is demonstrated and supported by, for example, Example A and Comparative Example C in Table 1. Such effects cannot be expected from Hougahm.

#### Discussion of Component E

The composition of Example 11 of Ichinohe refers to pigments. However, Example 11 does not specify "12 to 30% by weight of one or more kinds of water-repellent surface treated pigments ." Specifically, Example 11 of Ichinohe does not indicate that the referenced pigments are water-repellent surface treated pigments. Furthermore, the amount of the pigments is indicated as "proper". Since the weight percentages for the other components already add up to 100.0%, it is clear that any amount of pigment must be at the trace level so as to avoid interfering with the specified relative proportions of the other components. Thus,

Example 11 of Ichinohe fails to describe the presently claimed range of 12 to 30 % by weight.

The PTO has suggested that Wada describes a cosmetic material comprising silica coated metal oxide particle further surface treated with a hydrophobizing agent, and such material is used in the range of 1-50wt % and more preferably 5-30 wt % (see OA, page 5, lines 15 to 16; page 5, line 20 to page 6, line 2).

However, the advantageous effects described in the present application cannot be obtained by using particles surface treated with a hydrophobizing agent alone. It is necessary to formulate specific *combination* of components, *i.e.* presently claimed components (A) to (E), in specific amounts to obtain the beneficial effects. It should be noted that the compositions of Example 1 and Comparative Examples 2 to 5 contain component (E) in the same amount; however, water-runability is weak or unobtainable, and temperature-dependency is exhibited in Comparative Examples 2 to 5.

Finally, Applicants wish to direct the PTO's attention to Example A and Comparative Examples A and B in Table 1. Comparative Example A, an example where component (E) was decreased to the outside of the defined range of the present invention, showed no water-runability. Comparative Example B, an example where component (E) was increased to the outside of the defined range of the present invention, also showed no water-runability. While, Example 1 according to the present invention showed an excellent performance in water-runability.

#### Discussion of Components A/D

In Ichinohe, various non-volatile oil agents and various volatile solvents are exemplified in parallel for unctuous agents used together with silicone-modified wax (see paragraphs 17 to 22 of Ichinohe). Ichinohe describes a very broad range of 1-98 weight % for the unctuous agent (see paragraph 23 of Ichinohe). Further, some compounds exemplified for a compound having at least one alcoholic hydroxyl in its molecular structure in Ichinohe correspond to volatile solvents (see paragraphs 25 and 26 of Ichinohe). The amounts for such compounds disclosed in Ichinohe is also broad (see paragraph 26 of Ichinohe which specifies 0.1-98 weight %).

On the other hand, the presently claimed invention comprises a specific non-volatile oil agent (component (A)), and specific volatile solvent (component (D)) in a specific amount (7 to 30 weight % for component (A) and 20 to 60 weight % for component (D)). It is clear from Example 1 and Comparative Example 2 that the effect of the present invention can be obtained thereby. A person skilled in the art would never have had a reasonable expectation of such effects from Ichinohe and would not have been motivated to combine components in the claimed specific amounts of claim 1.

Ichinohe does not focus attention on the kinematic viscosity of a non-volatile oil agent. It is clear from Example 3 and Comparative Example 7 that selecting non-volatile oil having a kinematic viscosity of 5 to 1000 mm<sup>2</sup>/s is important for the presently claimed invention.

#### Discussion of Component F

As set forth above, Applicants do not believe that the combination of Ichinohe, Yonekura, Wada, Oka, Hougham, and Fukchi properly renders claim 1 obvious. Applicants also do not believe that the combination of Ichinohe Yonekura, Wada, Oka, Hougham and Fukuchi renders claim 1 obvious.

The PTO has suggested that Fukuchi teaches that the polysilicone of Formula I will provide a sustained luster, silkiness, and excellent conditioning effects on the hair (see OA, page 9, line 20 to page 10, line 5). It should be noted that the invention disclosed in Fukuchi is a hair composition comprising mucopolysaccharide and the polysilicone of Formula I (see the claims of Fukuchi for reference). In Fukuchi, the polysilicone of Formula I is formulated for the purpose of enhancing the function of the mucopolysaccharide and making up for the shortcomings of mucopolysaccharide (see page 3, lines 8 to 15 of Fukuchi). Clearly the effects described in Fukuchi are obtained only when mucopolysaccharide and polysilicone of Formula I are used together. Thus, a person skilled in the art would not try to use polysilicone of Formula I separately from mucopolysaccharide.

As described in the present specification, “in order to impart water-runability to cosmetic compositions and to reduce temperature dependency of the water-runability, it is preferable to formulate a highly polymerized silicone.” There is no teaching in Fukuchi as to the use of polysilicone of Formula I together with components (A) to (E). A person skilled in

the art would not expect the above-mentioned effects if the polysilicone of Formula I of Fukuchi were used together with component (A) to (E).

For the foregoing reasons, Applicants submit that the outstanding rejections are improper and ought to be withdrawn.

If an independent claim is nonobvious under §103, then any claim depending therefrom is nonobvious. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988). See MPEP 2143.03. Thus, Applicants submit that claims 2-7 and 9-20, which ultimately depend from independent claim 1, are also non-obvious.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of these rejections under §103.

### **CONCLUSION**

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. § 1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 7/1/09

By P.D.S

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